THREATENED & ENDANGERED SPECIES

Mussel Recovery Plans and Critical Habitat Locations

Recently Published by the U.S. Fish and Wildlife Service

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Recently, the U.S. Fish & Wildlife Service (FWS) published draft recovery plans and critical habitat proposals for several freshwater mussels and other aquatic species in Alabama. These plans and proposals can be reviewed on the U.S. Fish & Wildlife Service, Southeast Region 4 website (http://southeast.fws.gov). The goal of these recovery plans is to restore viable populations of the threatened and endangered species within a significant portion of their historical ranges, and to eliminate or reduce threats to their continued survival so that their protection under the Endangered Species Act is no longer required.

The decline in range and abundance of these species has most likely resulted from changes to their habitat. These have included the introduction of contaminants, the construction of dams and other impoundments, dredging and channelization activities, gravel mining, agricultural activities, loss of riparian buffers, unrestricted livestock access, road building, urban development, and non-point sedimentation. Silvicultural practices have minor impacts as long as Best Management Practices are properly used.

Critical habitat refers to specific geographic areas that are essential to the conservation of a threatened or endangered species and which may require special management considerations or protection. A critical habitat designation does not set up a preserve or refuge and only applies to situations where federal funding or a federal permit is involved. The designation of critical habitat on private land will have no impact on private landowner activities that do not require federal funding or permits.

Cumberlandian combshell *(courtesy Steve Ahlstedt-USGS)*

When determining areas to designate as critical habitat, the FWS considers physical and biological habitat features that are essential to the conservation of the species. These features include space for individual and population growth and normal behavior; cover or shelter; food, water, air, light, minerals, or other nutritional or physiological requirements; sites for spawning and rearing offspring; and habitats that are protected from disturbances or are representative of the historic geographical and ecological distributions of a species.

Mobile River Basin

Eleven freshwater mussels were listed March 17, 1993, under the federal Endangered Species Act. These species with proposed critical habitat are the "threatened" finelined pocketbook, orangenacre mucket, and Alabama moccasinshell; and the "endangered" Coosa moccasinshell, ovate clubshell, southern clubshell, dark pigtoe, southern pigtoe, triangular kidneyshell, upland combshell, and southern acornshell. (Pictures and other information about these species can be found on the FWS website.) These eleven mussel species are historically native to portions of the Mobile River Basin. The Basin is composed of seven major river systems (Mobile, Tombigbee, Black Warrior, Alabama, Cahaba, Coosa, and Tallapoosa) and drains portions of the states of Alabama, Mississippi, Georgia, and Tennessee. A Recovery Plan has been drafted for these species with proposed critical habitat locations scattered

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throughout central Alabama waterways (see Figure 1).

Cumberlandian Region Drainages

The Cumberland elktoe, oyster mussel, Cumberlandian combshell, purple bean, and rough rabbitsfoot were federally listed as endangered species under the Endangered Species Act on January 10, 1997. These five freshwater mussels are endemic to either the Cumberland River system (Cumberland elktoe), the Tennessee River system (purple bean and rough rabbitsfoot), or to both river systems (oyster mussel and Cumberlandian combshell). A Recovery Plan has been drafted and the FWS has also proposed critical habitat for these species. However, the only species and area in Alabama under the critical habitat proposal are the oyster mussel and Cumberlandian combshell along a section of Bear Creek in Colbert County (see Figure 2).

Oyster mussel *(courtesy FWS)*

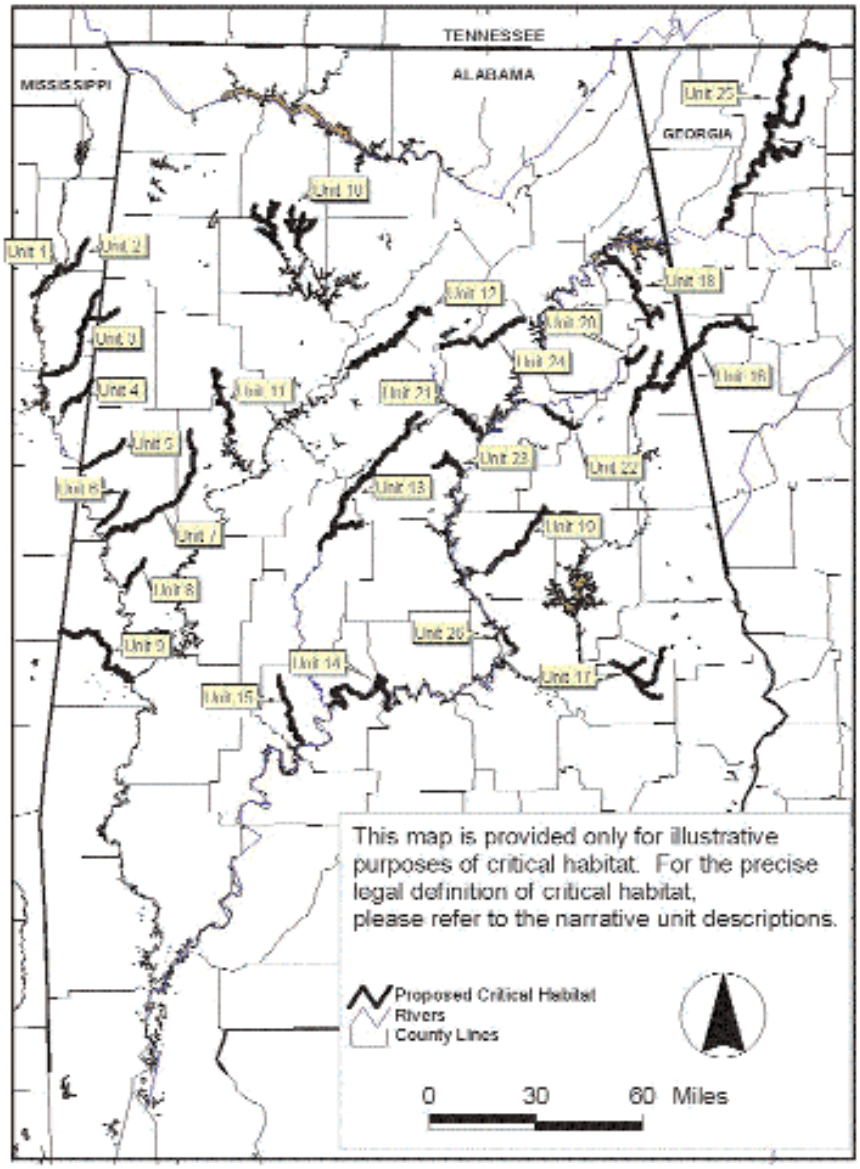

Figure 1: General locations of proposed critical habitat in the Mobile River Basin

Apalachicolan Region Drainages

The fat threeridge, shinyrayed pocketbook, Gulf moccasinshell, Ochlockonee moccasinshell, and oval pigtoe were federally listed as endangered species while the Chipola slabshell and purple bankclimber were federally listed as threatened species under the Endangered Species Act on March 16, 1998. The eastern Gulf Slope streams draining the Apalachicolan Region are defined as streams from the Escambia to the Suwannee River systems (see Figure 3). Occurring in southeast Alabama, north Florida, and west-central and southwest Georgia, these river systems collectively form one of the largest drainage areas in the eastern Gulf Coastal Plain. Historically, these rivers were known for their rich freshwater mussel populations. However, these mussels have all undergone significant reduction in total range and abundance. A Recovery Plan has been drafted, but critical habitat locations have not yet been published.

Conservation Measures

Maintaining vegetated riparian buffer zones adjacent to stream banks is a well-known method of reducing stream sedimentation and other runoff. Buffers reduce impacts to fish and other aquatic faunas and are particularly crucial for mussels. The Fish & Wildlife Service, other government agencies, conservation organizations, and local watershed protection groups have implemented ecosystem management programs to conserve,

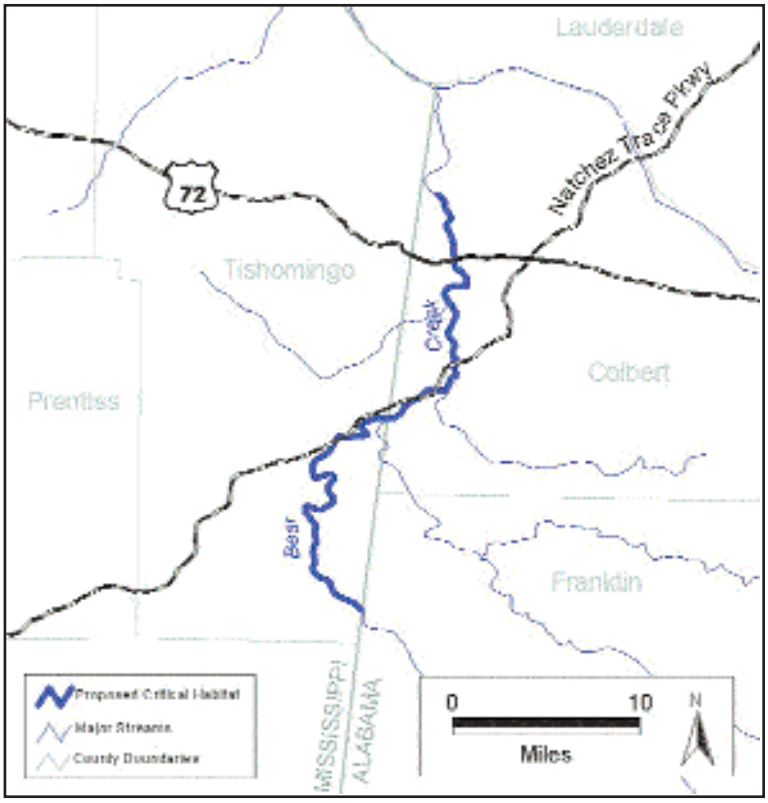

Figure 2: Bear Creek Cumberlandian combshell Critical Habitat Area Map

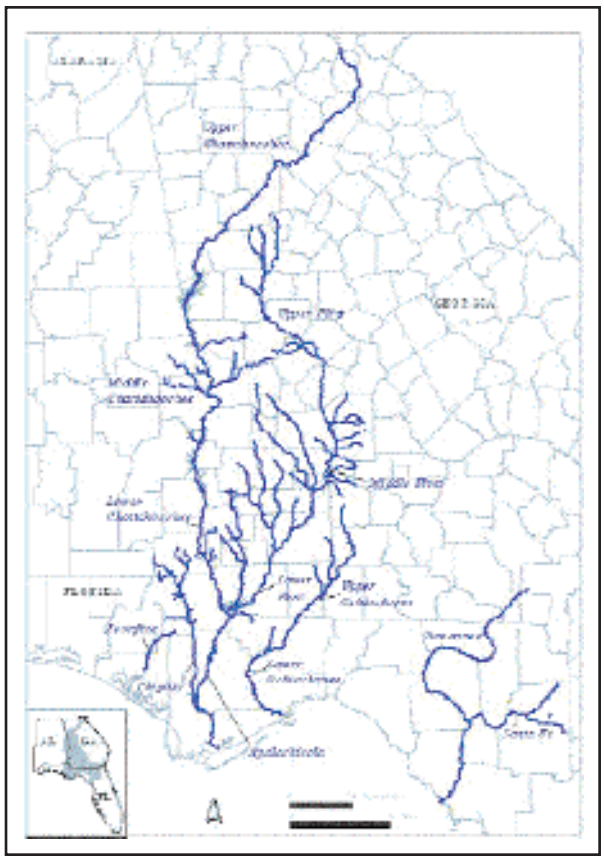

Figure 3: Apalachicolan Recovery Area Map

restore, and recover federal trust resources and other rare aquatic species and their habitats nationwide. These include prioritizing ecosystems in need of protection, identifying and partnering with all potential agencies and organizations with watershed interests, prioritizing ecosystem threats, identifying strategies to minimize or eliminate threats, and educating ecosystem inhabitants and other stakeholders.

Numerous grassroots organizations have sprung up to initiate community-based watershed restoration projects in the region. These groups, comprised of local citizenry, band together to promote water quality and aquatic habitat issues in their focus areas. In Alabama alone, the Alabama Rivers Alliance has identified nearly fifty "grassroots watershed guardians." The importance of grassroots organizations cannot be overstressed.

Grants

Millions of federal, state, and private funds have been awarded for projects designed to protect these endangered species. In fiscal year 2003, FWS will award approximately $91 million in federal funding under five types of endangered species grants. A variety of tools are available under the Endangered Species Act (ESA) to help landowners plan and implement projects to conserve species. The Cooperative Endangered Species Conservation Fund (Section 6 of the ESA) has been available for several years. An additional grant program, the Private Stewardship Program, was funded in fiscal year 2002 through the Land and Water Conservation Fund to respond to the burgeoning interest shown by landowners in managing their lands in ways that benefit species and their habitats. The Recovery Land Acquisition Grants Program provides funds to states and territories for acquisition of habitat for endangered and threatened species in support of approved recovery plans. Additional grant programs and applications are shown on the FWS website **(http://grants.fws.gov)**.

Despite their current level of imperilment, the Fish & Wildlife Service remains optimistic that nearly every stream with historically or currently significant mussel populations will become suitable for restoration if impacts are reduced.

Perhaps the greatest accomplishment of all is that riparian landowners and other stakeholders are proving that they can be good stewards of the land by taking increased interest and pride in aquatic resources.

Reference

U.S. Fish and Wildlife Service.